

**ABSTRACT**

An automatic wire threader (1) for threading a wire electrode (2) through upper and lower wire guides is provided with means for annealing and fusing the wire electrode. Upper and lower energized electrodes (20, 22) are provided above the upper wire guide (3) for supplying heating current to the wire electrode. A vertically moveable guide pipe (24) through which the wire electrode can pass is provided between the upper and lower energized electrodes. A heat retention unit (28) having a through hole (50) through which the guide pipe can pass is provided between the upper and lower energized electrodes. A coolant supply unit (26) supplies coolant for cooling the wire electrode in the guide pipe. A blocking fluid supply unit (34) supplies blocking fluid for preventing coolant flowing into the through hole of the heat retention unit.